



# MacBook Unibody Model A1278 Teardown

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## INTRODUCTION

We disassembled this computer on October 15, 2008.

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### TOOLS:

- [Anti-Static Wrist Strap](#) (1)
  - [Phillips #00 Screwdriver](#) (1)
  - [Spudger](#) (1)
  - [T6 Torx Screwdriver](#) (1)
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## Step 1 — MacBook Unibody Model A1278 Teardown



- Apple boasts that, "The new MacBook packaging is 41 percent smaller than the previous generation" and is made from recycled material.
- Smaller packaging, they say, means fewer planes to transport the same number of products.
- Follow our updates on [twitter](#).

## Step 2



- It looks like a MacBook Air from the top, but it's about 25% thicker than the thickest part of the Air, and almost 6 times thicker than the thinnest part.
- To be fair, though, it's about 12 percent thinner than its predecessor (0.95 in vs. 1.08 in) and 10 percent lighter (4.5 pounds vs. 5 pounds).

## Step 3



- In the box:
  - 85-page user's manual
  - Restore DVDs
  - 60-watt AC adapter
  - AC adapter extension cable
  - Cleaning cloth

**i** As with previous MacBooks, there's no video adapter included. There's an empty spot in the box where it would fit nicely, but there's no adapter to be found. Apple offers the DisplayPort adapter for \$29 extra.

## Step 4



- There's a new Mini DisplayPort (fourth from the right), and a complete lack of a FireWire port.
- It may be hard to tell from the image, but there are now 8 lights on the battery indicator, and it's conveniently located where you can actually see it.



## Step 5



- Opening the battery latch.
- For those hurt by the financial crisis, a coin is no longer required.

## Step 6



- The hard drive is on the left, and the battery is on the right.
- The new MacBook uses the same hard drives as previous MacBook models.
- Shameless plug: If you're not ready for a new machine, you can upgrade the [hard drive](#) in any Apple laptop. We have free [guides](#) for most models that make hard drive replacements easy.

## Step 7



- The battery is 45 watt-hours compared to 55 on the previous generation. It's also almost 20 percent lighter (302 g vs. 402 g).
- Still, Apple claims that you'll get 5 hours of wireless productivity (with the display brightness set to 50 percent).

## Step 8



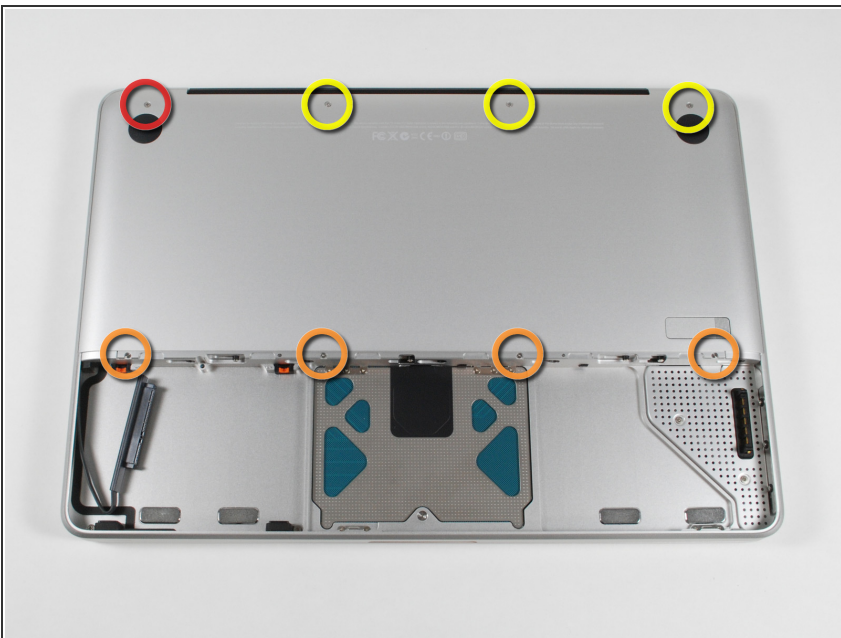
- The hard drive is held down by a single Phillips screw.
- ❗ Like the last black MacBook, the standard hard drive on the 2.4 GHz model is 250GB SATA and 5400 rpm.

## Step 9



- Disconnecting the hard drive.
- To replace the hard drive, you'll need a T6 Torx screwdriver to transfer the hard drive mounting screws to the new drive.

## Step 10



- The bottom panel is attached by 8 screws:
  - One 3 mm Phillips in the top left corner.
  - Four 3.5 mm Phillips along the bottom.
  - Three 13.8 mm Phillips along the top.

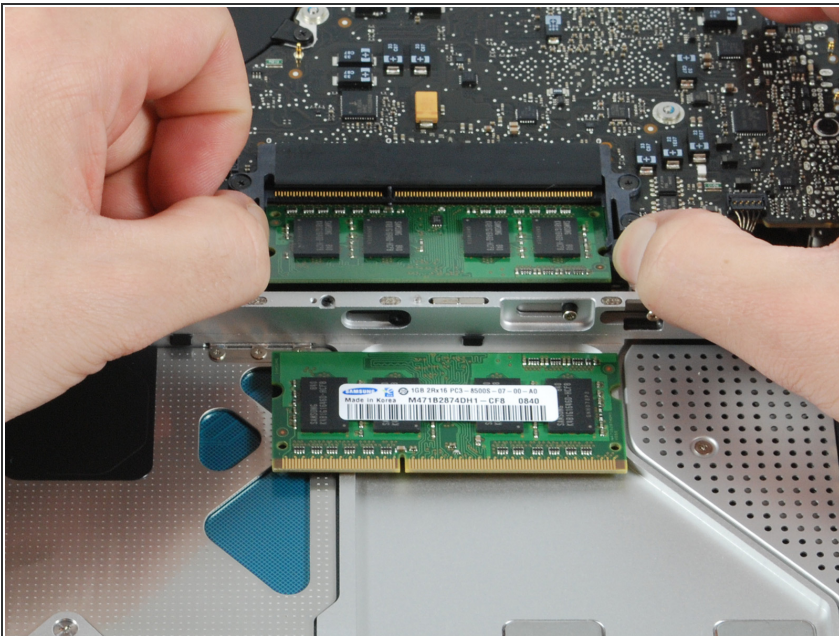


## Step 11



- Removing the bottom panel provides access to the RAM, optical drive, display hinge, fan, and logic board.
- It looks like the only really hard part to replace will be the upper case and keyboard.

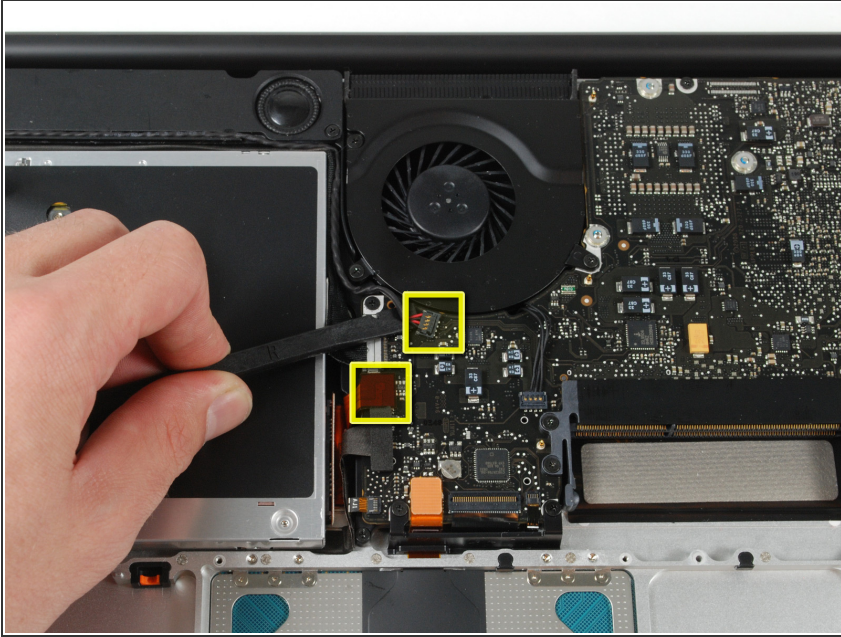
## Step 12



- Removing the RAM
- ❗ 2GB (two 1GB SO-DIMMs) of 1066MHz DDR3 SDRAM are included. Apple will upgrade the RAM to 4GB for an extra \$150.
- ❗ Apple claims this machine maxes out at 4GB RAM, but the Montevina chipset appears to support up to 8GB.
- Shameless plug: You can upgrade your existing MacBook or MacBook Pro to [4 GB](#). We'll also be offering the RAM for the new Unibody machines in the near future.



## Step 13



- i We've now exhausted the installation instructions Apple printed on the back of the battery cover.
- Disconnecting the subwoofer and optical drive cables.

## Step 14



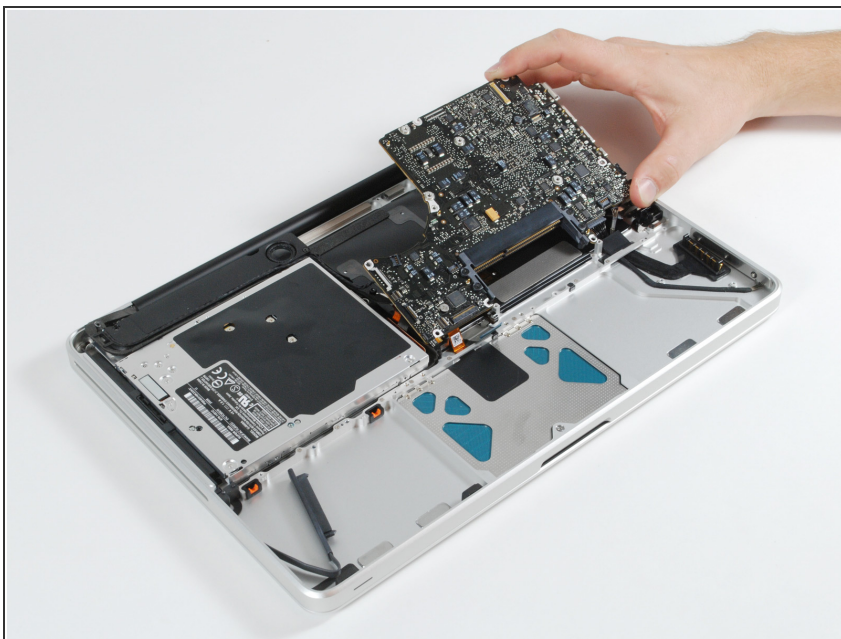
- The optical drive is held in by the following 4 screws:
  - Three 2.5 mm Phillips.
  - One 3.7 mm Phillips.
- i Apple gives the following specification: 8x SuperDrive (DVD±R DL/DVD±RW/CD-RW).

## Step 15



- The optical drive, now SATA.
- The optical drive shows a manufacture date of October 2008. That drive sure got from the factory to us fast!

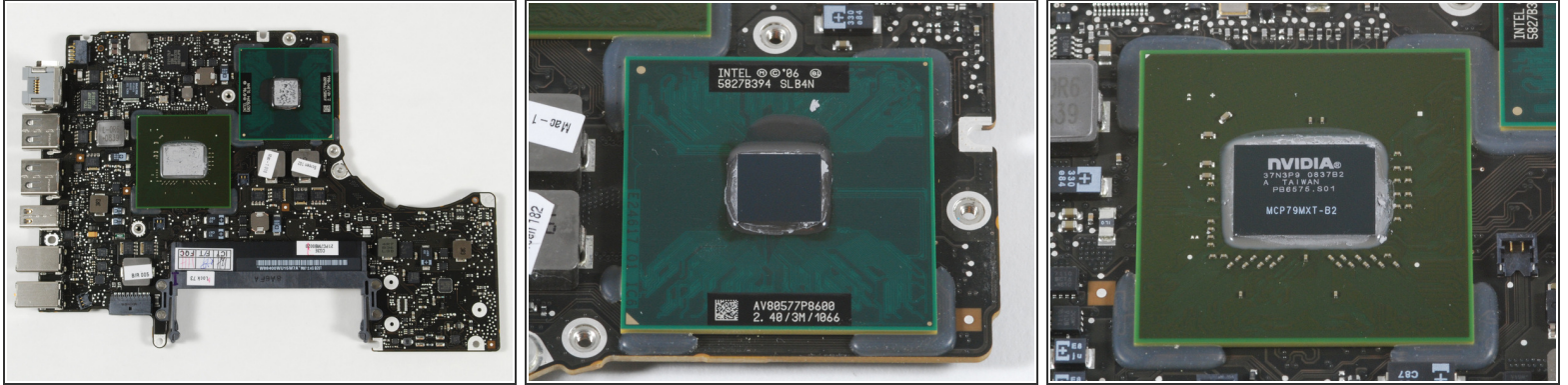
## Step 16



- Removing the logic board.
- This may be the most beautiful laptop we've disassembled. Apple has a right to be proud of their engineers and manufacturing team.



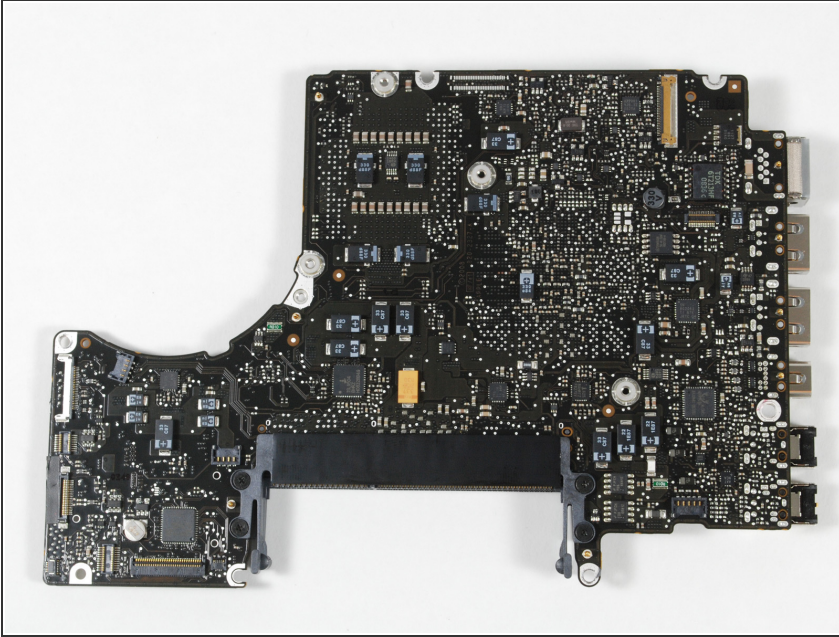
## Step 17



- The top of the logic board. (Click on the image for a larger version.)
- Part numbers found thus far:
  - Penryn [Intel Core 2 Duo Mobile Processor P8600](#) 5827B394 SLB4N AV80577P8600 2.40/3M/1066
  - [Cypress USB Controller](#) CY7C638 33LFXC 0825 KOR 633013
  - K0328 8F1 50C8 & K0305 8F5 5022
  - F2117LP 20H V AF03370 0824JPN
  - REALTEK RTL8251CA 86085S2 G831 TAIWAN
- Compare this to the previous [MacBook logic board](#).

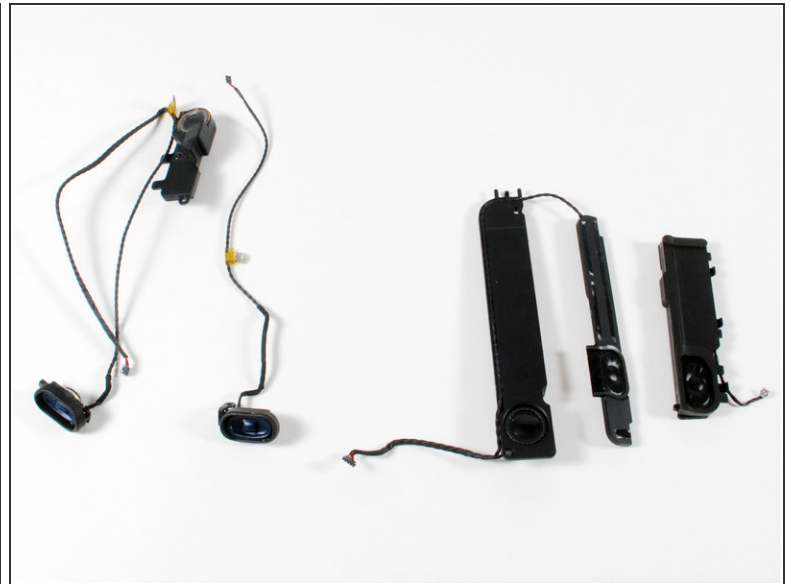


## Step 18



- The bottom of the logic board.
- Part numbers found thus far:
  - [Cypress PSoC Mixed-Signal Array](#) CY8C24794-24L FXI 0831 A 04 KOR CYP 637569
  - [Realtek HD Audio Codec](#) ALC885 87J24A1 G83283
  - TDK 6T213HF 0838 d
  - ISL9504 BHRZ H0832BB49
  - APP001 928 3T 0829A
  - SN 802043 TI 87K JR7C G4

## Step 19



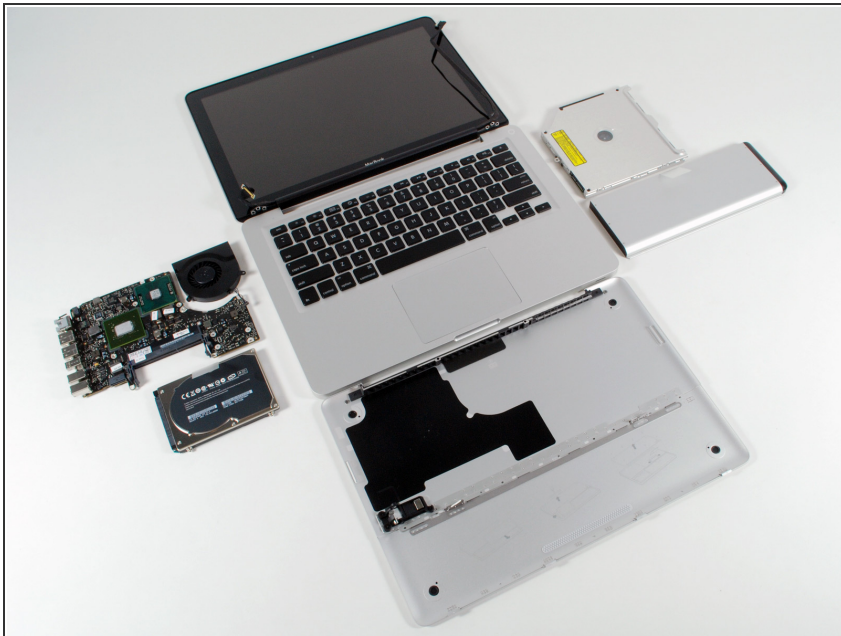
- Removing the right speaker and subwoofer.
- The new MacBook received a welcome speaker upgrade. In the second image, the old plastic MacBook's speakers are on the left, and the new MacBook's speakers are on the right.

## Step 20



- The elegant new glass and Aluminum display assembly.
- Amazingly, the new display assembly weighs slightly less than the previous MacBook's plastic display assembly.

## Step 21



- All major components - only 4.5 pounds, not bad for a full-featured, metal laptop.
- ⓘ Looking for more pictures? We've also disassembled the [new MacBook Pro](#).